

Two New *Gehyra* (Lacertilia: Gekkonidae) from Australia

G.M. Storr*

Abstract

The new species are *G. purpurascens* from the arid interior of the continent and *G. montium* from the Central Australian highlands; both are closely related to *G. variegata* (Duméril and Bibron). *Gehyra punctata* (Fry) is redescribed.

Introduction

A few of the Australian species of *Gehyra* are easily identified on peculiarities of their habit, subdigital scales or chin-shields. The remainder, including the widespread and abundant *G. variegata*, can often be distinguished only after the consideration of several characters, viz. rostral shape, size of postnasal (relative to posterior supranasal), height of first upper labial (relative to second), number of upper labials, subdigital lamellae and pre-anal pores, and certain details of coloration. The present paper adds two more species to this difficult section of the genus. One of the new species (*G. montium*) has been confused with *G. punctata* (Fry); the latter is therefore redescribed.

This study is based on material in the Western Australian Museum (R series). Subdigital lamellar counts do not include the distal azygous scale of the pad; upper labials are counted back to the level of centre of eye; and the only internasals counted are those in contact with the rostral.

Systematics

Gehyra purpurascens sp. nov.

Holotype

R72660 in Western Australian Museum, collected by A.V. Milewski on 6 October 1980 at 3.5 km NE of Comet Vale, Western Australia, in 29°55'S, 121°08'E.

Paratypes

One hundred and eighteen specimens in Western Australian Museum from Western Australia, Northern Territory and South Australia. For details see Material.

Diagnosis

A medium-sized arboreal *Gehyra*, most like *G. variegata* but larger (SVL up to 64, v. up to 54 mm) and with ground colour greyish (rather than brownish), dorsal pattern less

* Department of Ornithology and Herpetology, Western Australian Museum, Francis Street, Perth, Western Australia 6000.

prominent and lacking white spots or short white bars, top of rostral almost horizontal (more acutely gable-shaped in *variegata*) and fewer pre-anal pores (often less than 11, v. rarely less than 11 in *variegata*). Distinguishable from *G. pilbara* Mitchell and *G. montium* sp. nov. by absence of pale spots and by postnasal not much larger than posterior supranasal, and additionally from *pilbara* by first upper labial not higher than second.

Description

Snout-vent length (mm): 34-64 (N 119, mean 51.6). Length of tail (% SVL): 87-119 (N 24, mean 104.9).

Rostral about half as high as wide; top horizontal or sloping slightly downwards on each side, usually with a small median notch from which a groove descends to about centre of scale. Nostril surrounded by rostral, first labial, postnasal (about same size as posterior supranasal) and two supranasals (anterior much the larger). Internasals 0 (N 13), 1 (95), 2 (6) or 3 (1). Upper labials 7 (N 61), 8 (53) or 9 (4). Anterior chin-shields not in contact with second lower labial. Lamellae under pad of fourth toe in 6 (N 2), 7 (68), 8 (44) or 9 (3) pairs. Pre-anal pores 8-11 (N 58, mean 9.8) in males; pore-bearing scales contiguous and arranged in a chevron, i.e. median pore is anteriormost.

Upper surfaces pale purplish-grey, occasionally without pattern but usually with sparse to moderately dense, brownish-grey to blackish-grey markings in form of irregular spots or short streaks.

Distribution

Arid interior of western two-thirds of Australia: Western Australia from far north of Great Sandy Desert and Tanami Desert south nearly to Beacon, Comet Vale and Queen Victoria Spring (i.e. south to about the mulga-eucalypt line but excluding the Nullarbor Plain); central and southern Northern Territory, north to Elliott; and northern South Australia. See Figure 1.

Remarks

The name *purpurascens* is Latin for 'purplish'.

Material

Kimberley Division (W.A.)

26 km NE McLarty Hills (46049) and 21 km NNE (46087-8).

North-West Division (W.A.)

33 km NE Bulgamulgardy Soak (63209).

Eastern Division (W.A.)

92 km S Balgo Mission (47679); Swindell Field (29382); Well 35, Canning Stock Route (40157); 14 km SE Miles Hill (22°30'S, 122°23'E) (63767); 8 km NW Gary Junction (26961); 15 km W Dakota Hills (57253); 72 km W Terry Range (45115) and 7 km E (45221-2); 36 km E Jupiter Well (45210-3) and 65 km E (40152); Pollock Hills (40175, 45173-4, 45176, 57068); 37 km SE Gargoonyah WH (22°52'S, 121°58'E) (63844); Well 24, CSR (63905-6, 63916-7); 60 km N Windy Corner (45225-6); Durba Springs (51935); Well 11, CSR (51950); Pass of the Abencerrages (20753); 207 km ENE Carnegie (28867) and 65 km NE (40598) and 56 km NE (26883-4); 12 km SE Mt Beadell (21039); Winburn Rocks (20992-8); Mt Eveline (15702); Warburton Range (16480-1, 21015, 21018, 21020, 22029-31); 64 km E Skipper Knob (37498); 96 km N Neale

- *G. purpurascens*
- *G. montium*

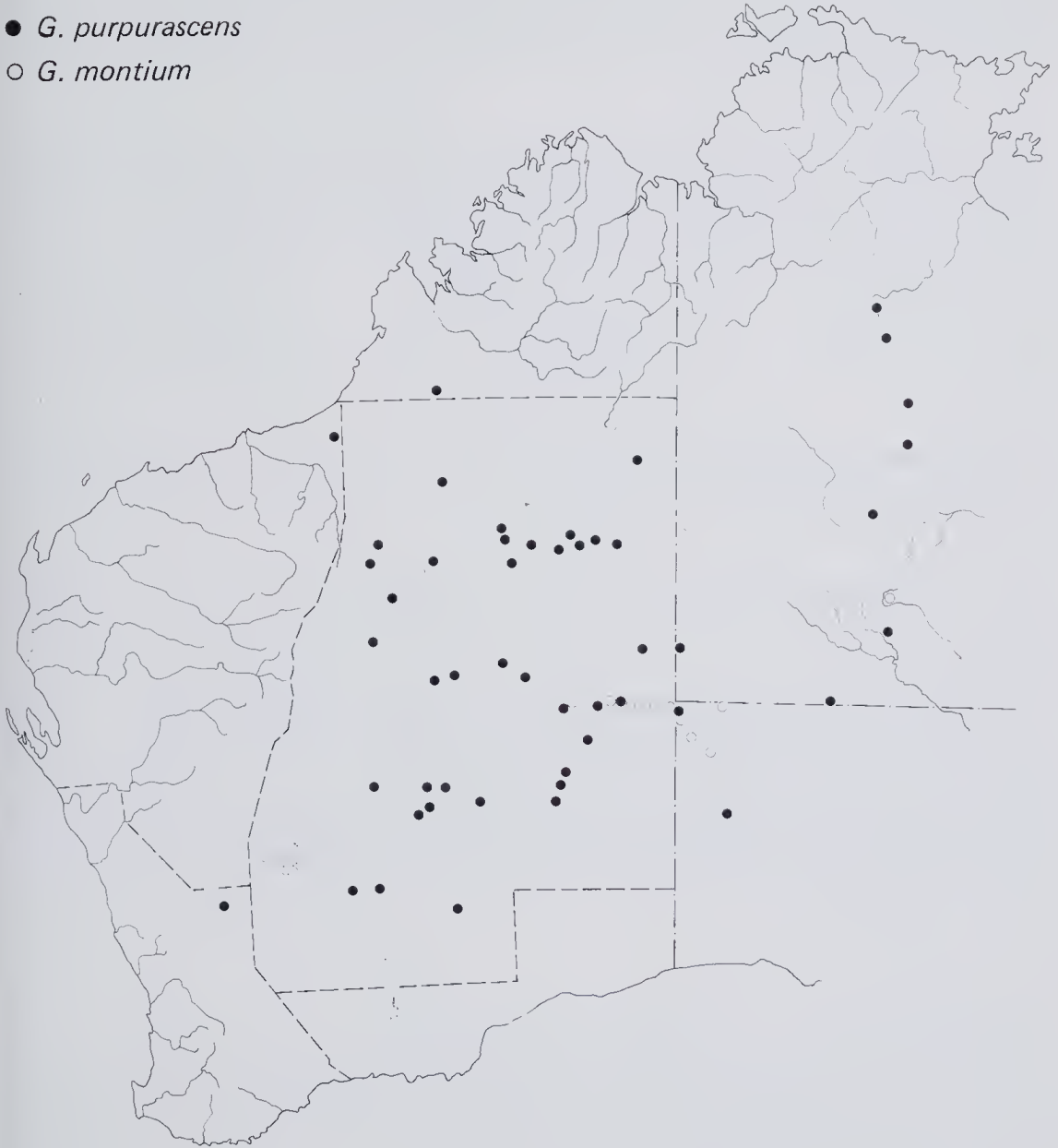


Figure 1 Map of western half of Australia showing location of specimens of *Gehyra purpurascens* and *G. montium*.

Junction (41579) and 70 km N (31909, 41578) and 35 km N (48777); 23 km ENE Cosmo Newbery (73912); 27 km E Point Sunday (53536-9); 138 km NE Laverton (13103a); White Cliffs (21195-7) and 27 km NE (53336-9); 9 km SSE Banjawarn (66039) and 13 km SE (69245-7, 69249-53, 69313-4, 74756, 74792); 3.5 km NE Comet Vale (65799) and 50 km E (72595); Queen Victoria Spring (58728).

South-West Division (W.A.)

48 km N Beacon (48342, 48359).

Northern Territory

Elliott (24185); Renner Springs (74019); Tennant Creek (21381) and 10 km E (21394-5); 23 km N Wauchope (24293-4) and 10 km N (34635-6); 26 km NE Teatree (24375-7); 8 km SW Deep Well RS (24466); Docker River (20771); 35 km W Victory Downs (20927).

South Australia

Mt Davies Camp (31702); 10 km E Vokes Hill (36606).

Gehyra montium sp. nov.

Holotype

R31732 in Western Australian Museum, collected by G.M. Storr, J.R. Ford and P.J. Fuller on 29 August 1968 at Mt Lindsay, South Australia, in 27°02'S, 129°53'E.

Paratypes

Seventy-six specimens in Western Australian Museum from Western Australia, Northern Territory and South Australia. For details see Material.

Diagnosis

A small rock-inhabiting *Gehyra*, most like *G. variegata* but slightly smaller (SVL up to 50, v. up to 54 mm) and with ground colour reddish (rather than brownish), pale dorsal spots usually detached from dark markings (in *variegata* the white spots or short white transverse bars are contiguous to posterior edge of dark transverse bars and are partly enclosed by these bars when they curve concavely backwards), and top of rostral less acutely gable-shaped. Further distinguishable from *G. pilbara* by first upper labial not higher than second, and from *G. purpurascens* by larger postnasal and presence of pale spots on head and back.

Description

Snout-vent length (mm): 28-50 (N 77, mean 40.7). Length of tail (% SVL): 87-124 (N 29, mean 107.5).

Rostral about half as wide as high; top horizontal or sloping slightly downwards on each side, usually with a small median notch from which a groove descends to about centre of scale. Nostril surrounded by rostral, first labial, postnasal (usually much larger than posterior supranasal) and two supranasals (anterior much the larger). Internasals 0 (N 15), 1 (50), 2 (7) or 3 (1). Upper labials 6 (N 20), 7 (42), 8 (11) or 9 (2). Anterior chin-shields not in contact with second lower labial. Lamellae under pad of fourth toe in 6 (N 13), 7 (40) or 8 (22 pairs). Pre-anal pores 9-15 (N 30, mean 11.5) in males; pore-bearing scales contiguous and arranged in a chevron, i.e. median pore is anteriormost.

Upper and lateral surfaces pale reddish-brown (more yellowish on head), marked with short blackish-brown streaks, mostly oblique on head (except for two longitudinal stripes on side of head), mostly transverse on back and tail; oblique and transverse streaks sometimes short enough to call spots; transverse streaks sometimes long enough to call cross-bands. Pale spots (especially yellowish spots on head) usually discernible and tending to alternate longitudinally with dark markings on back and tail.

Distribution

Rocky hills and granite outcrops of Central Australia: central and southern Northern Territory, north to Devils Marbles; far east of Western Australia, west to the Warburton Range; far north-west of South Australia, south to the Birksgate Range. See Figure 1.

Geographic Variation

Throughout most of its range *G. montium* has mostly 6 or 7 (rarely 8) subdigital lamellae. At Mt Lindsay counts of 8 exceed those of 7, and 6 is unknown. Upper labials are also more numerous at Mt Lindsay than elsewhere.

Remarks

This species is the chromosome race $2n = 38$ of King (1979: 381). The name *montium* is Latin for 'of the mountains'.

Material

Eastern Division (W.A.)

Warburton Range (22028, 22032); Barrow Range (20715-23); Cavenagh Range (20730-3); Blackstone Pass (20981-7, 34149); Hinckley Range (31692).

Northern Territory

Devils Marbles (12 km N Wauchope) (24296-9, 24301); 2 km E Emily Gap (54289, formerly M. King no. 534).

South Australia

Cave Hill, Musgrave Ranges (20944); Piltadi Rockhole, Mann Ranges (20967); 8 km NW Mt Davies Camp (31698-700) and 18 km S (31712); Krewinkel Hill (31721-3); Mt Lindsay (31732-66, 44364-5) and 28 km NW (31728).

Gehyra punctata (Fry, 1914)

Peropus variegatus var. *punctatus* Fry 1914, Rec. West. Aust. Mus. 1: 178. Strelley River, W.A.

Gehyra fenestra Mitchell 1965, Senck. biol. 46: 307. Mt Herbert, W.A.

Diagnosis

A medium-sized rock-inhabiting *Gehyra* with depressed head and body, swollen nostril region, boldly patterned upper surfaces (large dark and pale spots arranged in alternating transverse rows on back and tail), and large chin-shields, the anterior pair usually in contact with second lower labial.

Description

Snout-vent length (mm): 23-65 (N 246, mean 44.1). Length of tail (% SVL): 90-133 (N 74, mean 111.7); original tails slender and circular in section.

Rostral a little more than half as high as wide; top horizontal or sloping downwards on each side; rarely a small notch at top of groove that descends to about centre of scale. Nostril surrounded by rostral, two supranasals (anterior much the larger), postnasal (very much larger than posterior supranasal and often precluding first labial from nostril), and often first labial. Internasals 0 (N 67), 1 (109), 2 (6) or 3 (2). Upper labials 6 (N 3), 7 (68), 8 (94) or 9 (14), first usually a little higher and considerably narrower than second. Anterior chin-shields (at least on one side) in contact with second lower labial (N 92) or narrowly separated (25). Lamellae under pad of fourth toe in 6 (N 3), 7 (20), 8 (86), 9 (51) or 10 (5) pairs. Pre-anal pores 7-18 (N 53, mean 11.8) in males; pore-bearing scales contiguous and arranged in a chevron, i.e. median pore is anteriormost.

Upper and lateral surfaces brown, heavily spotted with blackish-brown and yellow; spots on back and tail arranged in transverse rows, a row of pale spots alternating with a row of dark spots. Lips and two stripes on side of head dark brown.

Distribution

Rocky hills and granite outcrops in arid north-west of Western Australia from the Pilbara (including several continental islands but not Barrow I.) south to the Yalgoo district. Also semi-arid south-west Kimberley (Napier Downs).

Geographic Variation

The isolated Kimberley population, judging from our single male specimen, is notable for the low number (7) of pre-anal pores. Otherwise variation is clinal. From north to south there is a decrease in number of pre-anal pores (9-18 in the Pilbara, v. 8-13 south of the Tropic), a decrease in number of upper labials (mostly 8 north of the Tropic, mostly 7 further south), a decrease in number of subdigital lamellae (9 almost as frequent as 8 north of the Tropic, much less frequent than 8 further south), a decrease in frequency of contact between first upper labial and nostril (usually in narrow contact north of the Tropic, usually not in contact further south), an increase in number of internasals (none as frequent as one north of Tropic, none much less frequent than one further south), and an increase in frequency of contact between anterior chin-shields and second lower labial (83% north of the Tropic, v. 94% further south). From north to south the colour pattern becomes more conspicuous: in the south the spots tend to be larger and less circular (i.e. elliptic with longer axis longitudinal); the pale spots are more richly yellow (golden yellow v. yellowish-white), and the dark spots may be edged with pale yellowish-brown.

Remarks

Mitchell (1965) divided this species into a larger *G. fenestra* sp. nov. restricted to the Pilbara and a smaller *G. punctata* (Fry) widespread in Australia between latitudes 20 and 25°S. This division was made largely on the number of mesosternal ribs (two in the former, and one in the latter). I have not checked this character for constancy, but

I suspect that Mitchell's concept of *G. punctata* was partly based on Pilbara specimens of *G. variegata* and/or *G. pilbara*. At any rate I believe that only three species of *Gehyra* occur in the Pilbara.

Material

Kimberley Division (W.A.)

9 km SSE Mt Amy (70039, 70554, 70663).

North-West Division (W.A.)

Strelley River (holotype); 22 km S Port Hedland (52122-4); Depuch I. (14553); Dolphin I. (14245-6, 14284-7, 14292, 37268-72); Angel I. (37250-4); Rosemary I. (14522-9, 37366-70); Enderby I. (37344-6); West Lewis I. (37329-30); Trimouille I. (37450); Point Samson (14576-7); Eramurra Creek (16084-6); 10 km NW Yandeyarra (25373); Doolena Pool, Coongan River (63603-5); Marble Bar (16079-80, 51718) and 10 km E (16081, 58976-9); Mt Edgar (16034, 16036-65, 16095); Woodie Woodie (63149); 34 km N Nullagine (37014); Abydos (10814); Mt Herbert (16083, 20199, 20203-4); Tambrey (20201); Muiron Is (37231-3); 19 km SW Peedamulla (52121, 52130); 10 km SW Pannawonica (68320-8); Hooley (10821-2); Cockeraga River (39742-3); 'Fortescue flats' [presumably N of Wittenoom] (37077); 15 km S Wittenoom (37080-1); Hancock Gorge (69807); Coppin Pool (69800-4, 69808-9); Paraburdoo (56138); Barradale (69997); Lyndon River (8211); 37 km NW Mt Vernon HS (25241); 18 km S Moogooree (62415); Mt Phillips (40635); Yinnietharra (40619-31, 53010, 56853) and 40 km S (53011); Mooka (47845); Landor (52131); 16 km W Dairy Creek HS (24830-4); Coordewandy (28367, 31079, 51692); 23 km N Meekatharra (16087-99); Mileura (15810, 40221-2, 45720-1) and 7 km W (28332-3); Beebyn (54311-2); Afghan Rock (34721-2); Big Bell (31508); Meka (29243-64); Billabalong (51184-5); near Tallering Peak (47713-4); 43 km W Mt Magnet (16100-6); 'between Yalgoo and Mt Magnet' (22785); 32 km E Yalgoo (45902-6) and 13 km SE (45902-6) and 30 km W (50062-9, 60502-4); 'Wurarga granite outcrop' (30214-25); Muralgarra (7509-10).

Eastern Division (W.A.)

32 km E Jiggalong (25207); Mt Davis, Canning Stock Route (28601).

References

- King, M. (1979). Karyotypic evolution in *Gehyra* (Gekkonidae: Reptilia) I. The *Gehyra variegata-punctata* complex. *Aust. J. Zool.* **27**: 373-393.
- Mitchell, F.J. (1965). Australian geckos assigned to the genus *Gehyra* Gray (Reptilia: Gekkonidae). *Senck. biol.* **46**: 287-319.